

0075088

100/300 AREA UNIT MANAGER MEETING  
ATTENDANCE AND DISTRIBUTION  
November 8, 2007

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100/300 AREA UNIT MANAGERS MEETING  
APPROVAL OF MINUTES  
November 8, 2007

APPROVAL: Stacy Charboneau Date 12-12-07  
Stacy Charboneau, DOE/RL (A3-04)  
River Corridor Project Manager

APPROVAL: Brian P. Hansen for Date 12/19/07  
Briant Charboneau, DOE/RL (A6-33)  
Groundwater Project Manager

APPROVAL: John B. Price Date 12-12-2007  
John Price, Ecology (H0-57)  
Environmental Restoration Manager

APPROVAL: Larry Gadbois Date 1-2-2008  
Larry Gadbois, Rod Lobos, or Laura  
Buelow, EPA (B1-46)  
100 Aggregate Area Unit Manager

APPROVAL: Alicia Boyd Date 1-02-2008  
Alicia Boyd, EPA (B1-46)  
300 Aggregate Area Unit Manager

**100 & 300 AREA UNIT MANAGER MEETING MINUTES****Groundwater, Source Operable Units, Facility (D4 and ISS), and Mission Completion****November 8, 2007****Washington Closure Hanford (WCH) Building, 2620 Fermi Drive, Richland, Washington****ADMINISTRATIVE**

- **Next Unit Manager Meeting (UMM)** - The next meeting will be held January 10, 2008. The U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL) agreed to cancel the December 13, 2007 UMM. The next meeting will be held January 10, 2008 at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209.
- **Attendees/Delegations** - Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM. Attachment B documents any delegations received from the agencies.
- **Approval of Minutes** - The October 11, 2007 meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL).
- **Action Item Status** - Status of action items was performed, and updates provided (Attachment C).
  - Attachment 1 provides information to close-out action item 100-134 regarding data from the 126-D-1 ash pit.
  - **Agreement:** In closing out action item 100-130, EPA, Ecology, and RL agreed to continue performing waste site specific RESRAD modeling as stated in the 100 Area Remedial Design Report/Remedial Action Work Plan (RDR) for radionuclides noted in Table 2-7 of the RDR, and a footnote should be included in verification packages for these radionuclides to indicate that waste site specific RESRAD modeling was performed and the footnote should reference the appropriate waste site specific RESRAD calculation brief; the appropriate waste site specific RESRAD calculation brief (without attachments) should be included as an appendix within the verification package and; cleanup levels cited in tables within verification packages shall be obtained from the look-up values in the RDR.
- **Agenda:** Attachment D is the meeting agenda.

**EXECUTIVE SESSION (Tri-Parties Only)**

The executive session was not held.

**100/300 AREA GROUNDWATER**

Attachment 2 provides a status or information. Attachment 3 is a map providing recent groundwater tritium values in the 100-B/C Area. No issues were identified, no agreements were documented, and no actions were documented.

## **GROUNDWATER/SOURCE INTEGRATION**

Attachment 4 is a list of action items from the 5-year review, and provides a status. The following updates were noted:

- Action 1-3: A schedule was provided, and this item is not part of the TPA negotiations.
- Action 2-2: Item is part of the TPA negotiations.
- Action 3-1: Item is completed.
- Action 5-1: Item is on schedule.
- Action 5-2: Item is in progress.
- Action 12-1: Characterization has started.

No issues were identified, no agreements were documented, and no actions were documented.

## **100/300 AREA FIELD REMEDIATION CLOSURE**

Attachment 5 covers 100-B/C. Attachment 6 covers 118-K-1. Attachments 7, 8, and 11 document various agreements. Attachment 9 covers sampling and design. Attachment 10 provides information regarding the Kd of Antimony. No issues were identified.

Action: RL will set up a meeting with EPA and Ecology to discuss the Kd for Antimony.

Agreement 1: Attachment 7 documents Ecology's approval to use uncontaminated water for dust suppression as specified in the attachment.

Agreement 2: Attachment 8 documents Ecology's approval regarding disposal of corrosive soil from the 126-D-1 waste sites.

Agreement 3: Attachment 11 documents approval (TPA-CN-188) from RL, EPA, and Ecology regarding changes to the *Remedial Design Report/Remedial Action Work Plan for the 100 Area*, DOE/RL-96-17, Rev. 5 on the disposition of water in empty Environmental Restoration Disposal Facility (ERDF) waste containers.

## **DEACTIVATION, DECONTAMINATION, DECOMMISSION, DEMOLITION (D4)/ INTERIM SAFE STORAGE (ISS)**

Attachment 12 provides a status or information for the 100 Area and Attachment 13 provides a status or information for the 300 Area. No issues were identified, and no actions were documented.

Agreement 1: Attachment 14 documents approval from RL and Ecology regarding minor changes to the 324 Closure Plan regarding building ownership, enforceable sections of the Closure Plan, and identify portions of the Closure Plan that will be used for certification of closure.

Agreement 2: Attachment 15 documents approval (TPA-CN-186) from RL and Ecology regarding changes to the *Removal Action Work Plan for the 100-N Ancillary Facilities*, DOE/RL-2002-70, Rev. 2. These changes allow for disposal to ERDF of used, outdated, or broken equipment that is either radiologically contaminated or cannot be free released due to potential contamination from biological vectors.

### **MISSION COMPLETION PROJECT**

Attachment 16 provides a status or information. No issues were identified, no agreements were documented, and no actions were documented.

### **SPECIAL TOPICS**

No special topics were discussed.

## **Attachment A**

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## **Attachment B**

## **Donnelly, Jack W**

---

**From:** Morse, John G [John\_G\_Morse@RL.gov]  
**Sent:** Wednesday, November 07, 2007 2:46 PM  
**To:** Donnelly, Jack W  
**Cc:** Hanson, James P  
**Subject:** RE: 100/300 Area Unit Manager's Meeting

Jim Hanson will be acting for the Groundwater Remediation Project Director

-----Original Message-----

From: Donnelly, Jack W [mailto:jack.donnelly@wch-rcc.com]  
Sent: Wednesday, November 07, 2007 2:32 PM  
To: Donnelly, Jack W; Ayres, Jeff; Bignell, Dale T; Black, Dale G; Bond, Rick; Borghese, Jane V; Boyd.Alicia@epamail.epa.gov; Brosee, Manfred N; Buckmaster, Mark A; buelow.laura@epamail.epa.gov; Callison, Stacey W; Carlson, Richard A; Charboneau, Briant L; Charboneau, Stacy L; scimon@oregontrail.net; Clark, Clifford E (Cliff); Clark, Steven W; Corpuz, Franklin M; Darby, John W; Dieterle, Steven E; Dittmer, Lorna M; Dresel, P Evan; einan.david@epamail.epa.gov; Fabre, Russel J; Fancher, Jonathan D (Jon); faulk.dennis@epamail.epa.gov; Fruchter, Jonathan S; gadbois.larry@epamail.epa.gov; Golden, James W; Goswami, Dibakar; Guercia, Rudolph F (Rudy); Hadley, Karl A; Hanson, James P; Hartman, Mary J; Hedel, Charles W; Huckaby, Alisa D; Hulstrom, Larry C; Jackson, Ronald L; Jacques, I D (Duane); Johnson, Wayne F; Jones, Mandy E; Koegler, Kim J; Landon, Roger J; LaRue, Deena N; Lerch, Jeffrey A; sandral@nezperce.org; lobos.rod@epamail.epa.gov; Miller, Larry R (Rex); Morse, John G; Obenauer, Dale F; Ovink, Roger W; Parnell, Scott E; Peterson, Robert E; Piippo, Robert E; Price, John (ECY); Proctor, Megan L; Queen, Jackie M; Robertson, Julie R; Robertson, Owen Jr; Rochette, Beth; Sands, John P; Saueressig, Daniel G; Shea, Jacqueline (ECY); Smet, Ann K; Smith, Douglas C (Chris); Smith-Jackson, Noel; Strom, Dean N; Swartz, Joseph M (Mike); Thompson, K M (Mike); Thomson, Jill E; Vanni, Jeanne; Vedder, Barry L; Winterhalder, John A; Yasek, Donna M; Zeisloft, Jamie  
Subject: 100/300 Area Unit Manager's Meeting

Good afternoon:

Attached is the final agenda for the Unit Manager Meeting scheduled for Thursday, November 8, 2007 from 1:00 p.m. to 4:30 p.m. at 2620 Fermi Avenue Washington Closure Hanford LLC Building) in Room C209. No executive session is being held so the so the meeting will start at 1:30 p.m.

If you are unable to attend please send any delegations. For those having action items please be prepared to provide a status to help expedite the action item portion of the meeting. The open action items will be provided in a handout for Thursday's meeting.

Additionally, for those providing hand-outs and summaries please bring extra copies to share with others. See everyone tomorrow.

Respectfully, Jack Donnelly  
372-2043

## **Attachment C**

100/300 Area UMM  
Action List  
November 8, 2007

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	100-128	RL	R. Guercia	100-N	RL will schedule a briefing with Ecology in October 2007 on the piping near the 1310 and 1322-NB buildings.	Open: 1/11/07; Action: The RL point of contact person changed and the action item revised on 7/12/07.
X	100-130	RL	J. Zeisloft	100 Areas	EPA and Ecology to discuss footnote in Cleanup Verification Packages/Remaining Site Cleanup Verification Packages (CVP/RSVPs) for immobile contaminants as related to the footnote stated in the Remedial Design Report/Remedial Action Work Plan for immobile contaminants.	Open: 1/11/07; Action: Item closed at 11/8/07 UMM.
O	300-008	RL	R. Guercia	100/300 Area	RL shall develop the instructions for documenting D4 completions in the 100 and 300 Areas where no known waste site is under the building, and no releases to soil are documented or expected based on existing data. These instructions shall be added into the respective Removal Action Work Plans after review and approval from the respective lead regulatory agency for the specific Removal Action Work Plans in the 100 and 300 Areas.	Open: 4/12/07; Action: Ongoing action, and are still under development. A draft was provided to EPA and EPA is reviewing.

100/300 Area UMM  
Action List  
November 8, 2007

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	100-134	RL	J. Zeisloft	100-D Area	RL will respond to Ecology's electronic mail message sent on April 19, 2007 regarding the 126-D-1 Ash Pit.	Open: 5/10/07; Action: RL provided Ecology data on July 2, 07. Ecology sent comments, and is awaiting a response. Item was closed at 11/8/07 UMM.
X	100-140	RL	S. Weil	100/300 Area	EPA requested information for each operable unit on the following areas: 1) total operable unit acreage/boundary map, 2) waste site acreage within each operable unit, and 3) acreage within each operable unit that is cleaned up. Additional discussions are expected on this subject.	Open: 7/12/07; Action: EPA sent RL a letter regarding this request. EPA contacted RL regarding the urgency of the request, and this is on schedule. Item was closed at 11/8/07 UMM.
X	100-143	RL	J. Zeisloft	100-D	RL, with its contractors, will meet with Ecology to discuss their comments on the 100-D Orphan Site Report, and finalize the list of sites.	Open: 9/13/07; Action: Item was closed at 11/8/07 UMM.
X	100-145	RL	J. Hanson/J. Zeisloft	100-D	RL (groundwater staff) and RL (river corridor staff) shall provide each other their respective schedules regarding drilling and cleanup actions to assist in coordination efforts for the portion of the 100-D-56 pipeline that requires backfill prior to well installation.	Open: 9/13/07; Action: Item was closed at 11/8/07 UMM.
X	100-147	RL	C. Smith	100 Areas	RL shall provide EPA and Ecology with a red-line version of Appendix G of the 100 Area Remedial Design Report/Remedial Action Work Plan, Rev. 5 to assist in reviewing the proposed changes.	Open: 10/11/07; Action: Item was closed at 11/8/07 UMM.

100/300 Area UMM  
Action List  
November 8, 2007

Open (O) Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	100-148	RL	C. Smith	100 Areas	RL will set up a meeting with EPA and Ecology to discuss the Kd for Antimony.	Open: 11/8/07; Action:

## **Attachment D**

100/300 Area Unit Manager Meeting  
November 8, 2007  
Washington Closure Hanford Building  
2620 Fermi Avenue, Richland, WA 99354  
Room C209  
1:00-4:30 p.m.

1:00 - 1:30 p.m.

Executive Session (Tri-Parties Only):

- None

1:35 p.m. - 2:00 p.m.

Administrative:

- Approval and signing of previous meeting minutes (October 2007)
- Update to Action Items List
- Next UMM (12/13/2007, Room C209)

2:00 - 4:30 p.m.

Open Session: Project Updates:

- 100/300 Area Groundwater (Jim Hanson/Jane Borghese)
- Groundwater/Source Integration
  - 5-year Record of Decision Review Update (Cliff Clark/Alicia Boyd)
- 100/300 Area Field Remediation and Closure (FR)
  - 100-F (Chris Smith/Jon Fancher)
  - 300-FF-2 (Chris Smith/John Darby)
  - 618-10/11 (Chris Smith/Scott Parnell)
  - 100-B/C (Chris Smith/Dean Strom)
  - 118-K-1 (Jamie Zeisloft/Dale Obenauer)
  - 100-D (Jamie Zeisloft/Mark Buckmaster)
  - Sampling and FR Design (Chris Smith/Lorna Dittmer/Rich Carlson)
- D4/ISS
  - 300 Area D4 (Rudy Guercia/Donna Yasek)
  - 100 Area D4 (Rudy Guercia/Dan Saueressig)
  - ISS (Chris Smith/Dan Saueressig)
- Mission Completion (John Sands/Jeff Lerch/Jill Thomson)
  - Plan/schedule for comment resolution on RCBRA
- Special Topics



## **Attachment 1**

(1)

**Document Review:** WCH Memo to Jamie Ziesloft, "Ecology Questions Related to 126-D-1 Ash Disposal Pit", June 7, 2007

**Reviewers:** Noe'l Smith-Jackson, Jacqueline Shea

**WCH Response Date:** November 8, 2007

**Specific Comments:**

**1. WCH Statement:** The laboratory mistakenly interchanged two of the spiked samples with B07258 and B07259 during strontium analysis, and none of the samples had strontium present above the laboratory minimal detectable activity (MDA).

**Ecology Comment:** Based on the memorandum and the EcoTek data package, the strontium-90 results for samples B07258 and B07259 were 45.6 pCi/g and 174 pCi/g, respectively. Page 772 of this same data package shows Spike A was 46.2 pCi/g and Spike B was 46.0 pCi/g; both resulting in spike recoveries of 94%. Therefore, based on the above assumption, if the laboratory mistakenly interchanged the data reported for Spikes A and B with samples B07258 and B07259, then the samples would be corrected to 46.2 pCi/g and 46.0 pCi/g, instead of the currently reported values of 45.6 pCi/g and 174 pCi/g; both of which would still be elevated and above the MDA's.

**WCH Response:** Page 779 of the EcoTek data package is what appears to be the analytical bench sheet generated for the analytical batch which included the 4 samples submitted for this site (lab delivery group 52252). This sheet identifies two analytical spikes (lab Series Numbers 8760 and 8761). Page 775 of the data package presents the laboratory's final result calculation spreadsheet. In this spreadsheet, spike samples 8760 and 8761 show 0 net counts for Sr-90. This spreadsheet does include data for two additional spikes (8980 and 8981). Although these additional spike samples were counted at the same time as the samples in the Hanford batch, no documentation is provided to otherwise analytically tie these spikes to the Hanford samples. No other Hanford soil samples were likely in process for Sr-90 analysis. These are the spikes reported by EcoTek in the data package as associated QC sample, but documentation to this association with the Hanford sample batch is not presented. The net counts shown on page 775 for sample B07258 (lab id 21151-01) and B07259 (21151-02) are consistent with the amount of Sr-90 routinely spiked by this lab and the values obtained for spikes 8980 and 8981. As an addition note, page 63 of the field logbook contains results of total activity screening done for the samples for shipping documentation. The analytical methodology of the time for total activity might have missed a total gross alpha/beta activity of ~50 pCi/g, the nominal reporting limit and value approximating the total reported activity in B07258, but would have reported activity in B07259 if actually present in the sample at the levels reported by EcoTek (approximate 185 pCi/g).

**2. WCH Statement:** A review of the primary laboratory data package does not include sample B07262 which indicates that it may be a laboratory split sample.

**Ecology Comment:** It doesn't seem likely that sample B07262 was a laboratory split because the sample collection documentation is listed on page 63 of the sampler's logbook. Interestingly, based on the laboratory chain of custody forms, and the absence of data within the EcoTek and Lionville data packages, it appears that the sample was never sent to either of those labs for analyses. However, HEIS and the memo list data for this sample. Please provide where this strontium-90 and gross beta data came from, as well as all other data that is listed in HEIS for this sample.

WCH Response: The sampling documentation generated prior to sampling (SAF 92-304) indicates that a split was to be taken. The field logbook identifies shipping to both the Weston (SAF identified as main lab) and TMA laboratories (SAF identified as split lab). The radionuclide analyses sent to Weston were transshipped by Weston to the EcoTek lab as a subcontractor. The analytical data for B07262 in the HEIS database shows TMA as the lab that performed the analysis. This sample has to be the field split sample.

**3. WCH Statement:** The gross beta results of 0.914 pCi/g for sample B07258 and 7.23 pCi/g for B07259 do not show a relationship with the respective strontium-90 results of 45.6 pCi/g and 174 pCi/g.

**Ecology Comment:** There is definitely a notable discrepancy between the gross beta and Sr-90 results for these two samples. Is it possible to provide a technical basis for how this could occur? Was the gross beta analysis also performed by EcoTek, or were separate aliquots of the samples sent to another laboratory for gross beta analysis, or was some sort of gross beta field method used? If the gross beta results were provided by EcoTek, please reference the page number of the data package where the results are presented. As it stands, it may be impossible to provide an explanation for the lack of relationship with strontium-90 and gross beta that occurred when the samples were analyzed back in 1993. If an error was indeed made, it should have been identified when the data quality was originally assessed.

WCH Response: The other gross beta results (including the split sample) are consistent with minimal activity in the samples. Only the radioactive strontium data package portion of the rad data was copied when the data set was recovered from Records Holding. The HEIS database shows Ecotek as the laboratory that performed the gross beta analysis. The data was not validated and it is unclear at this point in time how much assessment was performed on the data in the 1993 time frame. EcoTek was used for only a short time, due primarily to other data quality issues identified at the time. This apparent error should have been identified when originally received but it should be noted that this data was received at a time of large amounts of data was being generated by the labs.

**4. WCH Statement:** Sample B07258 appears to be an equipment blank because the logbook documents that one was collected; it is the only sample in the group that does not have a sample interval recorded; and the inorganic data for this sample is unique from the other samples and is not the composition of soil. In view of this information, B07258 is an equipment blank (probably silica sand) and the Sr-90 result is extremely suspect indicating a laboratory problem.

**Ecology Comment:** Please provide which page of the logbook states that an equipment blank was collected. This information was unable to be located. It is possible that B07258 does not have a sample interval recorded because it was the first sample collected, which was taken from the top of the Ash Pit. Per the logbook, all subsequent samples were collected from one foot to four foot depths, which may explain why samples B07259, B07260, B07261, and B07262 have "interval bottom" elevations recorded, and B07258 does not. Also, it is true that the inorganic data for B07258 has mainly non-detects for the metals analysis. However, the sample does have a hit for iron, whereas the actual laboratory method blank has nondetects for all metals, including iron. Also, upon review of the complete list of data in HEIS for this sample, there were several other radiochemical constituents which resulted in detectable values, many of

which were similar to the levels found in the other samples for this site. Based on this, it doesn't seem likely that B07258 was the equipment blank for this set of samples.

**WCH Response:** The sampling documentation generated prior to sampling (SAF 92-304) indicates that a silica sand equipment blank was to be taken. Page 61 of the logbook includes a photo (#2) has "equipment blank" noted and a time of 11:22. Page 62 of the logbook shows sample B07259 with a sample time of 11:22. Normally, the first sample of the group is the equipment blank (taken to ensure sampling equipment was properly cleaned before sampling) and it is typically the lowest number in the group (or from a different number series). The analytical results for sample B07258 are consistent with a silica sand equipment blank, showing the constituents in the sand – trace levels of metals and very low levels of naturally occurring radionuclides. The logbook doesn't specifically identify either B07258 or B07259 as the equipment blank, but it is likely that one of them is.

**5. WCH Statement:** "Our review of the hard copy radiochemistry laboratory report for the strontium-90 analysis indicates the laboratory interchanged two spiked samples with the actual results. The batch associated spikes were non-detects and they should have had radioactivity. While the net counts on samples of concern are essentially identical to the expected spikes."

**Ecology Comment:** Unfortunately, the data to fully confirm the above assumption was not able to be located. Based on the EcoTek data package, the associated spikes for these samples were Spike A and Spike B, which were not non-detects. They were 46.2 pCi/g and 46.0 pCi/g, resulting in 94% spike recoveries for both (See EcoTek data package, pages 769 and 772). Please clarify which batch associated spikes were non-detects, if others were analyzed. Secondly, the net count on sample B07259 does not appear to be essentially identical to that of an expected spike. If sample B07259 was reclassified as a spike, its result of 174 pCi/g would produce a 354% spike recovery. Although, it is true that if sample B07258 was reclassified as a spike, its result of 45.6 pCi/g would produce an acceptable 92.9% spike recovery. Other than this apparent coincidence, the explanation of interchanged spikes with actual sample results, to account for the elevated Sr-90 levels for B07258 and B07259, does not seem valid. If additional evidence exists to support the assumption, please provide it for review.

**WCH Response:** As noted in the response 1, the laboratory found net Sr-90 activity in samples B07258 and B07259 consistent with the activity normally spiked to lab batch QC samples and essentially identical to two lab batch QC samples from an unidentified (but likely similar) analytical batch. It is unlikely that two samples would have true contamination functionally equal to lab spikes (particularly when one of them is most likely an equipment blank). That the correct batch associated QC spikes were found to be non-detect for Sr-90 indicates at least one major error at the laboratory. The evidence is circumstantial (and would likely not have been resolvable without reanalysis of the original sample materials), but it is highly likely that either the lab spiked the samples instead of the blanks or that counting planchets were misidentified when sent to the counting room.

## **General Comment, Question 2:**

1. The text states that the Soil Contamination Area was assigned a waste site identification number (100-D-79) during the Ophan Sites Evaluation. As a result, review of historical information, overburden sample results, and regulator approval is necessary

to reject this site in WIDS. The posted Soil Contamination Area should remain posted until rejection of 100-D-79 has been approved by the regulators.

WCH Response: A meeting with DOE and Ecology to discuss potential waste site reclassification will be scheduled.

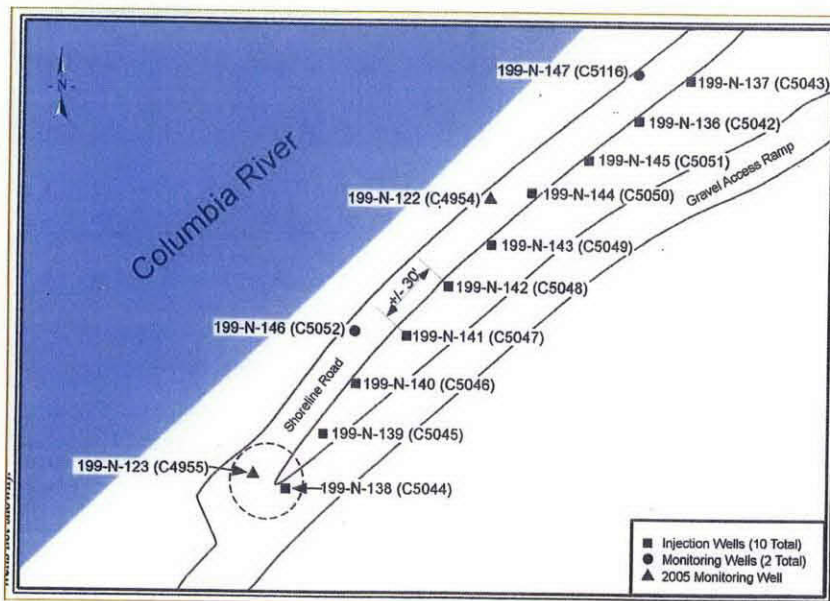
## **Attachment 2**

## 100/300 Areas Unit Managers Meeting, November 8, 2007

### 100-NR-2 Groundwater OU - Russ Fabre

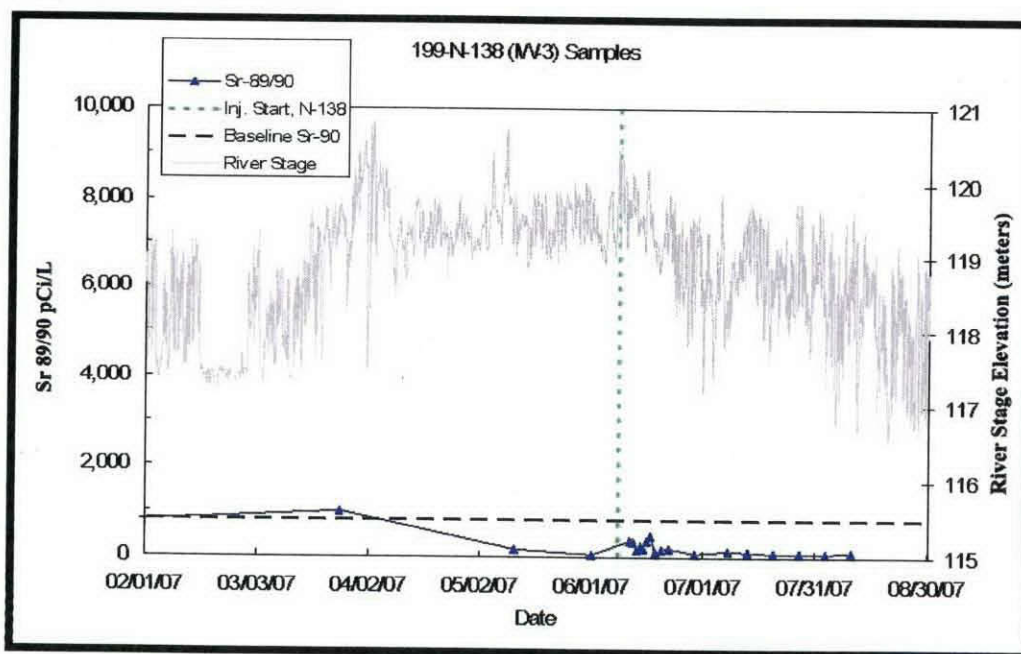
#### Apatite Barrier Injections

- All Injections for 2007 have been completed.
- Planning for 2008 injections ongoing.
- Sampling of the performance wells will continue monthly.

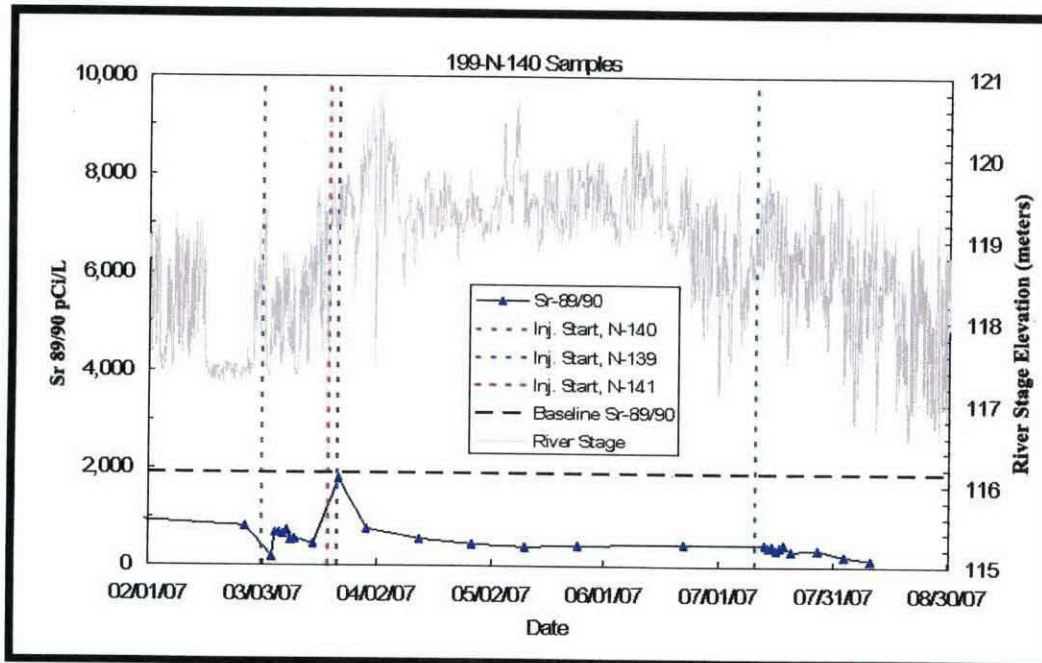
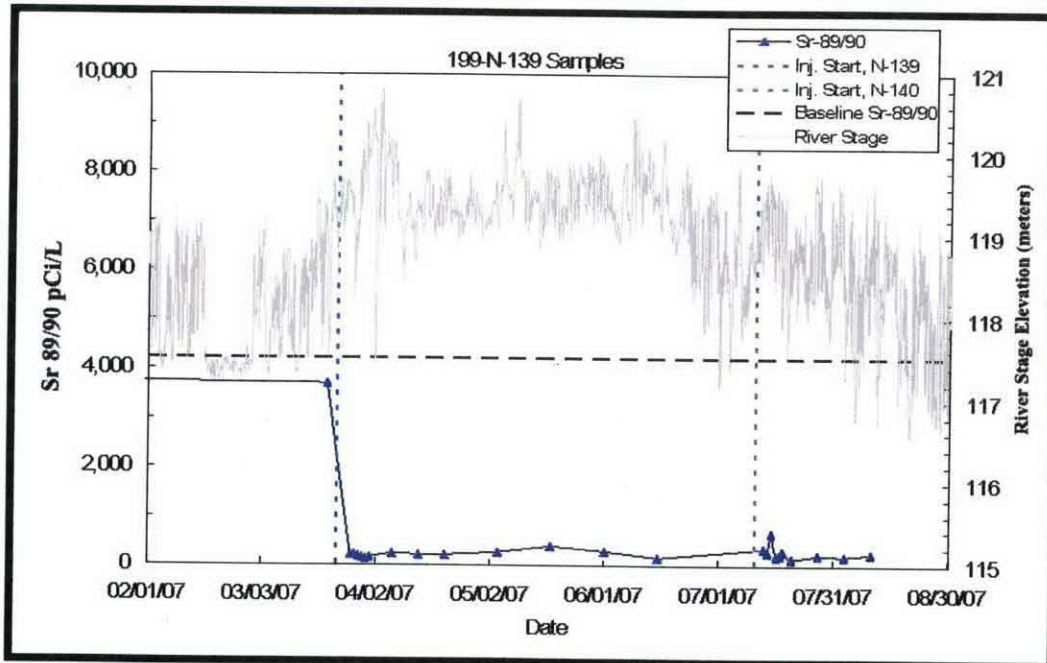


#### Apatite Preliminary Performance on Sr 90 reduction

- Anticipate continued reductions as the apatite forms.

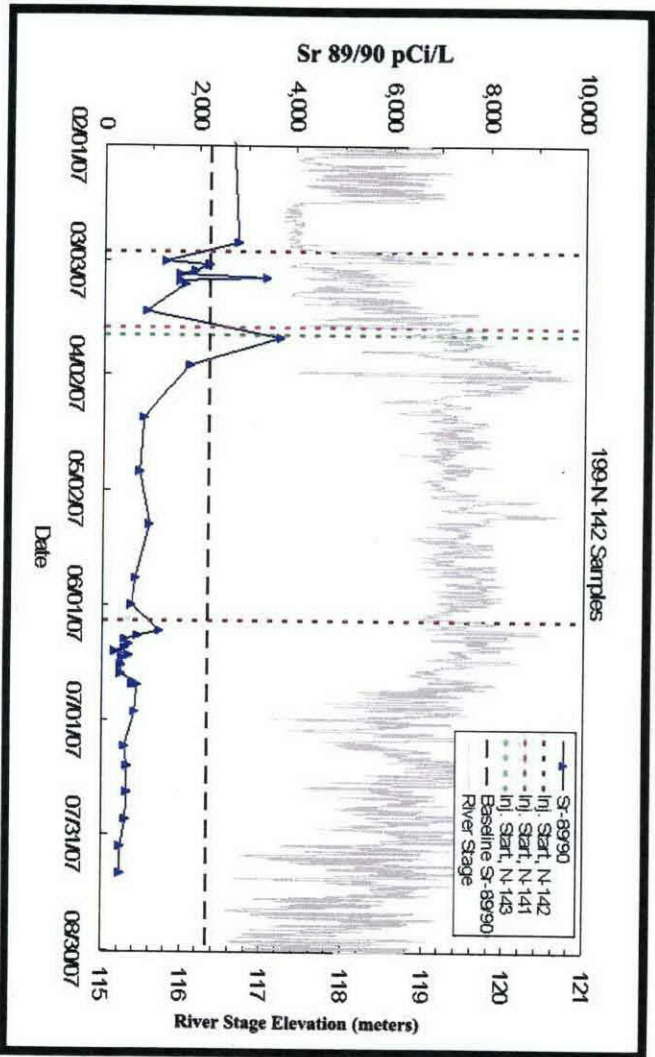
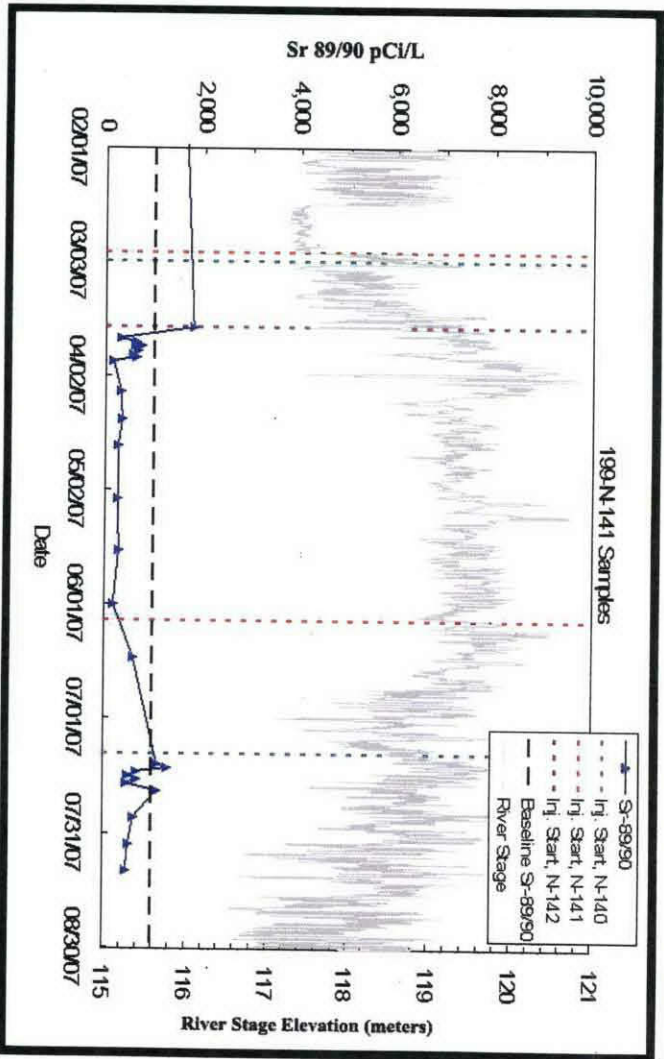


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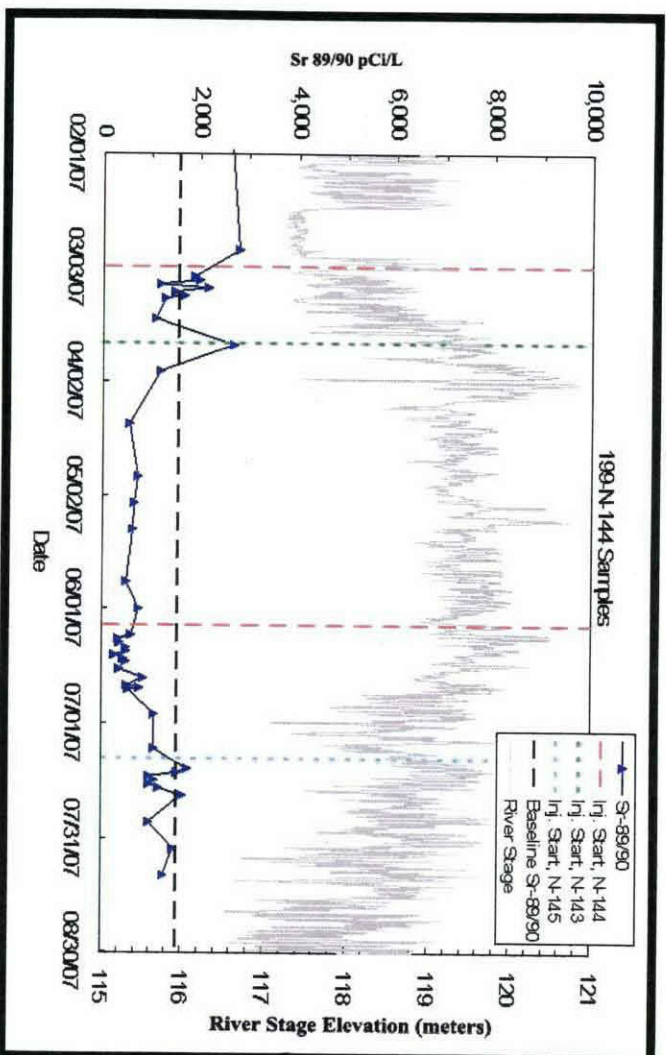
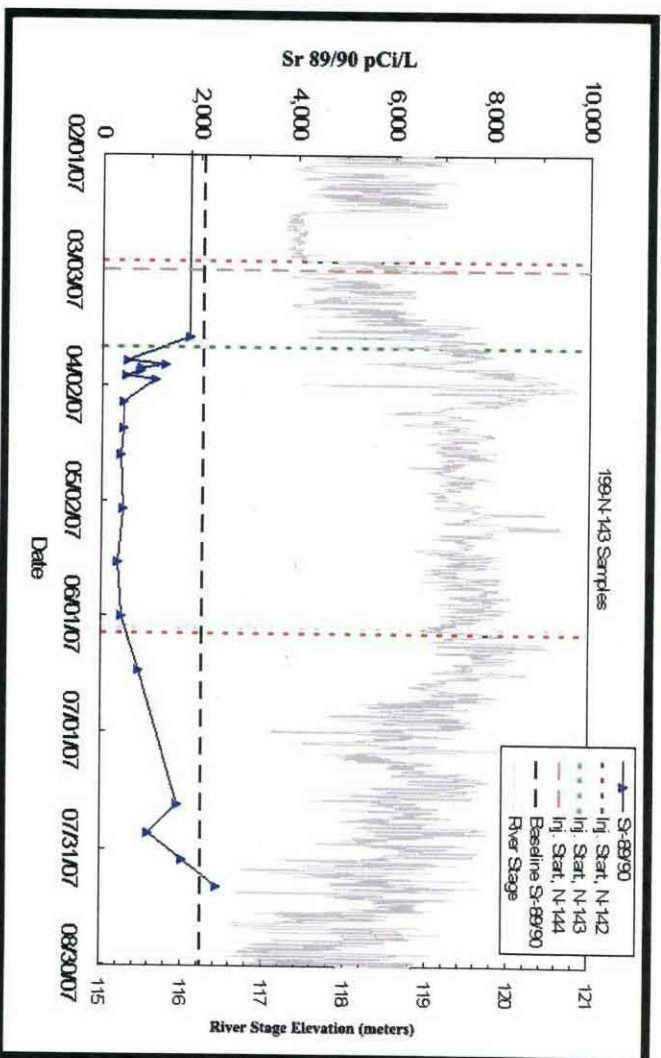




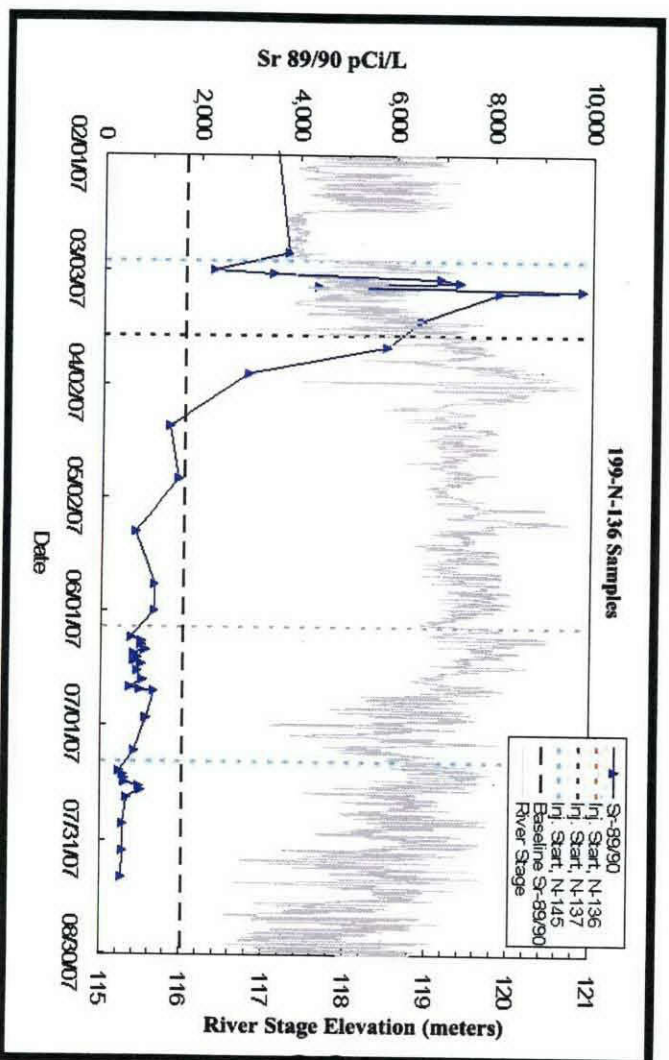
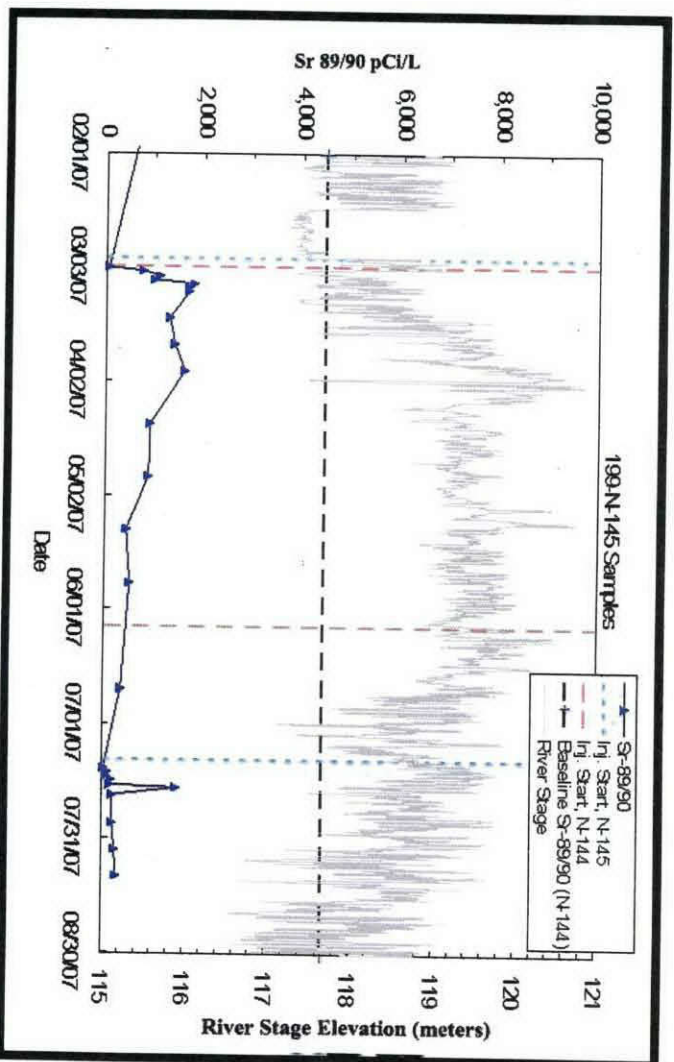
**100/300 Areas Unit Managers Meeting,  
November 8, 2007**



# 100/300 Areas Unit Managers Meeting, November 8, 2007



# 100/300 Areas Unit Managers Meeting, November 8, 2007



**100/300 Areas Unit Managers Meeting,  
November 8, 2007**

**100-KR-4 Groundwater OU - Ron Jackson**

- Remediation Treatment Status
  - For the period of October 1-31, 2007:
    - System operated normally. Extraction well 199-K-119 was off line from August 21-October 8 due to feed-pump problems and solenoid problems.
    - Total average flow through the system was approximately 260 gpm.
    - Average influent hexavalent chromium concentration was 0.057 mg/L.
    - Tribes conducted their monthly cultural resource walk down of the KR-4 area on October 19. Over the last month, the new access roads and well pads were constructed. No problems were observed this month.
- KR-4 Expansion
  - EPA's review of the *Supplement to the 100-HR-3 and 100-KR-4 Remedial Design Report and Remedial Action Work Plan for the Expansion of the 100-KR-4 Pump-and Treat System* for EPA was initiated on 11/5. Comments are due on December 23, 2007.
  - The KX expansion design package has been completed and initiated the preparation of the statement of work for construction. The PLC/OIC will be completed in April 2008 on schedule.
- KW Groundwater Remediation
  - For the period of October 1-28, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 101 gpm.
    - Average influent hexavalent chromium concentration was 0.108 mg/L.
    - Over the past year, the hexavalent chromium concentrations in monitoring well 199-K-137 have increase from approximately 2200 ppb to 3500 ppb. Discussions are underway between RL and EPA concerning various near term cleanup options.

**100-K Area Drilling Status—Ron Jackson (FH)**

- Drilling began on eighteen KR-4 Pump and Treat Expansion Wells on October 4<sup>th</sup>. As of November 6, five wells have been completed and two wells are being constructed.

**100-KR-4: K-Basins Monitoring Task—Duane Horton**

- Leak Detection Monitoring Results:
  - The most recent results for routine quarterly sampling of wells in the K-Basins network are for samples collected in early October 2007. Results are consistent with trends and expectations.
  - The most recent results for monthly sampling at three wells close to the KE Basin (199-K-27, 199-K-29, and 199-K-109A) are for samples collected in early October 2007. Results are on trend.
  - There is no evidence to indicate groundwater impacts attributable to leakage of shielding water from either Basin.
- Monitoring Well Network:
  - Routine quarterly sampling of K-Basins network wells occurred in early October. The monthly sampling scheduled near KE basin is coordinated with the quarterly event.
  - New wells 199-K-141 and K-142, located between KE reactor and the Columbia River, were sampled on October 8. The first samples from these wells showed unexpected results for chromium and tritium. The results of the October 8 sampling have not been received

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yet from the laboratory. There is no new information at this point to explain the anomalies. Calculated groundwater flow direction, in the vicinity of 199-K-141 is northwesterly direction based on heads measured in monitoring wells K-111, K-141, and K-30.

- The tritium concentration for the August sampling of well 199-K-106A, located near the KW reactor and down-gradient of the former KW condensate crib, was dramatically lower than for previous samples. The August concentration (~30,000 pCi/L) was comparable to the pre-2001 concentrations. The October sampling results have not yet been received for the laboratory to confirm the August result. The KW fuel storage basin is not a likely source for the tritium.
- Reporting:
  - The most recent RCRA quarterly report is for July, August and September 2007 (SGW-35502).

**100-HR-3 Groundwater OU - Ron Jackson**

- Remediation Treatment Status
  - For the period October 1-30, 2007:
    - The system operated normally.
    - Total average flow through the system was approximately 140 gpm. This month's treatment capacity is lower (20-30 gpm) than reported in August due to low river water stage fluctuations causing some of the wells to shut down. Extraction well 199-H4-64 has been out of service from September 7-October 16 due to separation in the power conduit.
    - Average influent hexavalent chromium concentration for H Area was approximately less than 0.016 mg/L.
    - Average influent hexavalent chromium concentration for D Area was approximately 0.153 mg/L.
- DR-5 Treatment Status
  - For the period October 1-30, 2007:
    - System operated normally.
    - Total average flow through the system was approximately 42 gpm. Extraction well D5-32 was off line from 9/22-10/4 due to failure of the pump.
    - The average influent hexavalent chromium concentration was approximately 0.960 mg/L.
- "Horn" Investigation
  - As of October 30, thirteen wells (C5656, C5657, C5658, C5660, C5661, C5662, C5663, C5664, C5665, C5667, C5668, C5685 and C5687) have been constructed, developed, and accepted, and one well (C5669) has been constructed since field activities began on August 23.
  - The installation of the aquifer tubes is complete and ready for sampling on November 5.
- Summary of ISRM Status
  - Chromium concentrations in groundwater sampled from select ISRM injection wells similar to those collected last October.
- EM-22 Technology Developments
  - Injecting micron-size iron into selected ISRM boreholes. Completed the first screening tests, which were batch tests to evaluate the reactivity of eight different iron compounds (screened from an initial list of 30). Two of the compounds showed little to no reduction of chromate so were eliminated from further testing. Injection tests followed by flushing are currently being performed to evaluate the physical behavior of the materials. These will be

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followed by geochemical tests. After each of these tests the data will be evaluated to see if any of the iron compounds can be screened out. A more elaborate series of column tests will follow the screening tests. The field test, originally scheduled for July, 2007, has been postponed.

- EC Treatability Test- Completed spiking the EC system with 2000 ppb of hexavalent chromium. The EC reduced the concentrations to less than 20 ppb in a single pass. Cleanout and lay-up of the EC equipment has been completed. The pressure transducer in 199-D5-33 was reinstalled on September 20 to continue monitoring of the 182-D Reservoir. Per the test plan, the treatability test report is due in March 2008.
- The seven chromium source investigation wells are being sampled for hexavalent chromium every other week. The four new wells planned to further refine the chromium source in this area will likely be drilled in December, after WCH is finished with excavations and able to backfill part of the 100-D-56 trench.
- EM-20 has committed their support for a chromium source investigation of the northern 100-D plume. Planning for this project will begin in November.
- Groundwater around the biostimulation wells is being sampled weekly. The groundwater is maintaining a reduced condition.

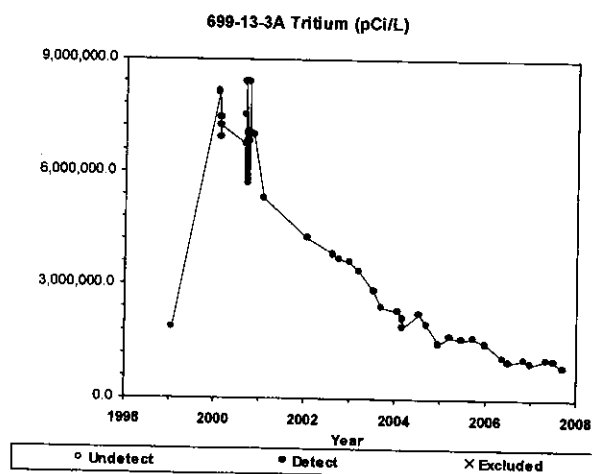
**HR-3/KR-4 Waste Management Plan- John Winterhalder**

- A revision to the HR-3/KR-4 Waste Management Plan is being worked. The plan has been through internal RL and EPA reviews. It is currently with Ecology for review. Provided requested information and data to Ecology to resolve comments on Rev. 6 of the HR-3/KR-4 Waste Management Plan

**300-FF-5 Operable Unit—Bob Peterson and Ron Smith (PNNL-updated 11/05/07)**

- Operations and Maintenance Plan Activities
  - *300 Area Sampling and Analysis:* New results are for samples collected from several wells on monthly (RCRA) or quarterly schedules (e.g., new wells; several 300-FF-5 wells). Uranium results are consistent with established trends and expectations. A result for trichloroethene in an aquifer tube sample from late August is higher than previous results. The tube is positioned in the same fine-grained unit that is the target of the VOC investigation (see below). A high value for carbon tetrachloride was reported for a shallower tube at the same site, but the result is very likely an error, as confirmed by re-sampling and analysis. The regular semi-annual sampling of aquifer tubes took place during late October/ early November.
  - *618-11 Burial Ground Subregion:* Most recent results are for samples collected in mid-September. Tritium at 699-13-3A (adjacent to burial ground) is at lowest level to date (see chart).

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- *618-10 Burial Ground Subregion:* Most recent results are for samples collected in mid-September. Uranium remains well below the drinking water standard. Tributyl phosphate remains very low or nondetected.
- *Report Describing Uranium Contamination in the 300 Area Subsurface:* PNNL17034--DRAFT was provided to Fluor and DOE on October 24.
- *Groundwater Flow Model:* Report describing FY 2007 activities is currently being assembled.
- *Review Comments on Risk Report and LFI Report:* Production of final versions of each of these reports is underway.
- Other Activities
  - *VOC Investigation:* The last of the three additional characterization boreholes is now being drilled (399-3-22). Analysis of samples collected during the drilling of 399-2-5 (South Process Pond) and 399-4-14 (south of 307 Trench, near 331 Building) did not reveal volatile organic compounds at levels of significance, with the majority of results nondetects.
  - *Treatability Testing (EM-22):* Analysis of monitoring data following the June injection of polyphosphate solutions continues.

**100-BC-5 Operable Units—Mary Hartman**

- New wells 199-B8-7 and 199-B8-8 were sampled September 10 and data were recently loaded into HEIS. Constituents of interest are listed below. Chromium concentrations were low. Tritium at levels near and above the 20,000 pCi/L drinking water standard was unexpected.

**Selected Results for September 10, 2007**

Constituent	199-B8-7	199-B8-8
Chromium, total (µg/L)	<4 and 6.2 filtered dupes <4 and 11.5 unfiltered dupes	10.3 filtered 8.7 unfiltered
Chromium, hexavalent (µg/L)	<5 filtered dupes	7
Nitrate (mg/L)	6.9 and 7.0 dupes	7.8
Tritium (pCi/L)	18,000 and 18,000 dupes	59,000
Gross alpha and beta	not received yet	not received yet

- The wells were sampled again October 9 and November 5, and will be sampled in December and January; then we'll switch to a quarterly schedule.



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- Other wells are scheduled for annual sampling in January 2008.
- Aquifer tubes sampling scheduled for this fall.
- Two or three new aquifer tube clusters are proposed to fill in gaps

**100-FR-3 Operable Unit—Mary Hartman**

- All scheduled wells except one in the 600 Area were sampled as scheduled in October. The pump wouldn't start in well 699-63-55 and samplers will make another attempt this month.
- Aquifer tube sampling scheduled for this fall.
- Three new aquifer tube clusters are proposed to replace tubes that have been lost.

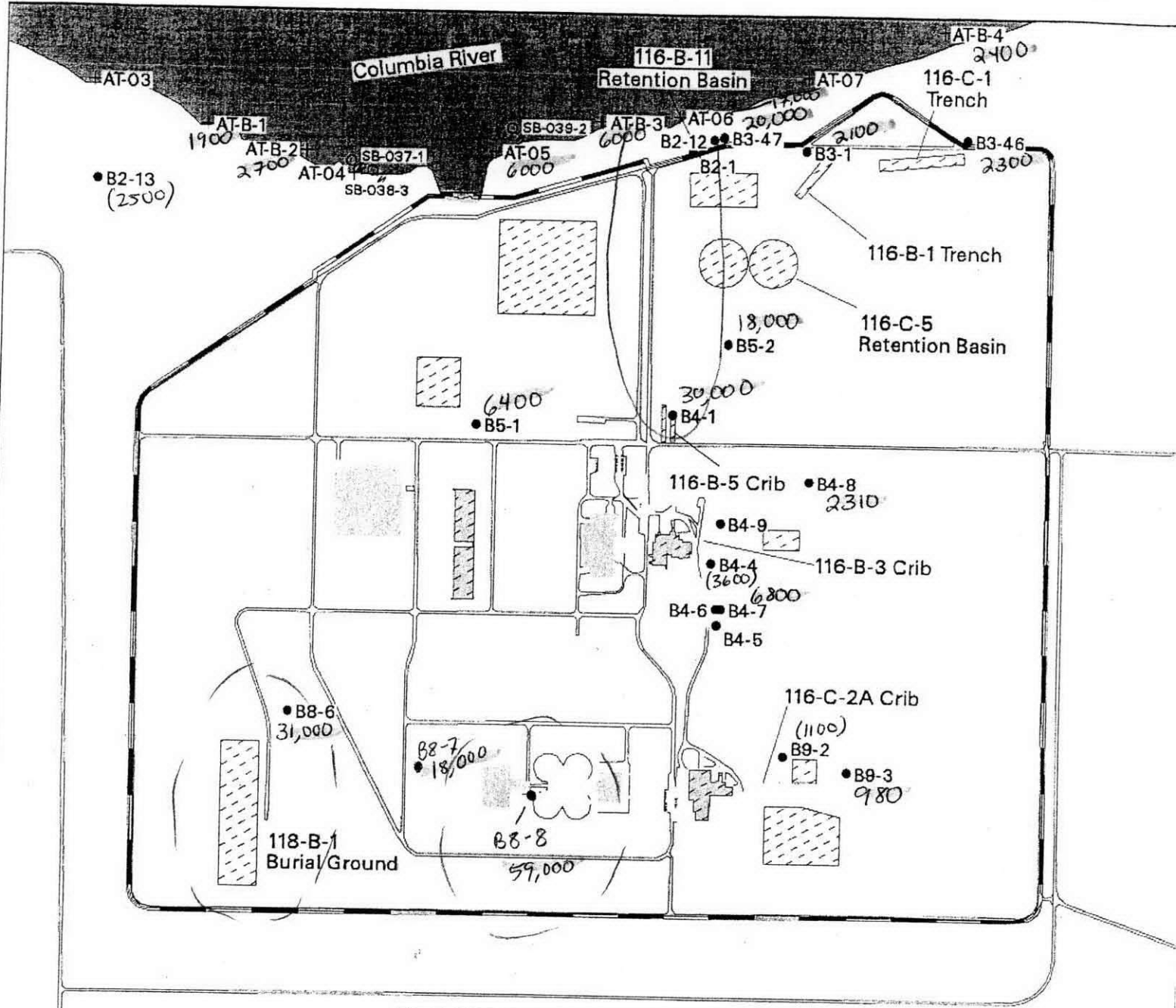
**The Aquifer Tube Sampling Status is as follows:**

- 300 Area- completed all sampling (20 tubes (8 sites)).
- 100-BC Area- completed 4 of 24 tubes.
- Horn Area- completed A, B, and I sites; potentially will finish C to H sites today.
- 100-NR-2 Area- completed monthly aquifer tube sampling.



## **Attachment 3**

TRITIUM FY07 (FY06) pCi/l



(undetected)  
65-83

Rivers/Ponds

Basalt Above Water Table

Waste Sites

Area Boundary

• Well Monitored in Fiscal Years 1999 - 2004

+ Aquifer Sampling Tube Group

Well Prefixes 199- and 699- Omitted

Riverbank Spring

N

## **Attachment 4**

Issues and Actions		Action Due Date	Status August 2007
<b>100/300 Crosscutting</b>			
<b>Issue 1.</b> Additional risk assessment information is needed to evaluate the interim actions prescribed within the records of decisions and to develop final cleanup decisions.			
	<b>Action 1-1.</b> Submit Draft A of the River Corridor Baseline Risk Assessment Report.	Jun-07	Complete
	<b>Action 1-2.</b> Submit draft sampling and analysis plan for Inter-Areas Shoreline Assessment.	Aug-06	Complete
	<b>New Action 1-3.</b> Reassess and resubmit to EPA the protectiveness determinations for operable units 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-HR-3, 100-IU-2, 100-IU-6, 100-KR-1, 100-KR-2, 100-KR-4, 100-NR-1, 300-FF-1, and 300-FF-2 using new information from the River Corridor Baseline Risk Assessment and submit to EPA an Addendum with, as appropriate, updated Protectiveness Determinations, Issues, and Follow-up Actions.	Feb-08	in TPA negotiations
<b>Issue 2.</b> A strategy to obtain the final records of decisions and integrate the waste sites, deep vadose zone and groundwater has not been developed and agreed upon with the regulator agencies.			
	<b>Action 2-1.</b> Submit Draft A of the River Corridor Strategy for Achieving Final Cleanup Decision in the River Corridor. Document will identify issues for integration and provide alternatives for future discussions between the Tri-Parties on milestones for final records of decision in the River Corridor.	Nov-06	Complete
	<b>New Action 2-2.</b> Reach agreement between the Tri-Party Agencies on a strategy and schedule to obtain final records of decisions in the River Corridor.	Nov-07	06/07 in progress in TPA negotiation
	<b>New Action 2-3.</b> Submit a TPA change package with new milestones for submitting RI/FS work plans and proposed plans for all operable units in the river corridor. New milestones shall require submission of RI/FS work plans and proposed plans for final actions at all of the following operable units that do not already have these documents approved: 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-HR-3, 100-IU-2, 100-IU-6, 100-KR-1, 100-KR-2, 100-KR-4, 100-NR-1, 300-FF-1, and 300-FF-2.	Feb-08	in TPA negotiations, dependent on Action 1-3 2-2
<b>100-K Area</b>			
<b>Issue 3.</b> The southeastern (inland) extent of the chromium groundwater plume from the 116-K-2 trench, northeast of the current injection wells, has not been delineated.			
	<b>Action 3-1.</b> Install three additional wells to further delineate the southeastern (inland) extent of the chromium groundwater plume from the 116-K-2 trench, northeast of the current injection wells. Wells installed as part of the pump-and-treat system expansion or injection well relocation may count towards this effort if appropriately located.	Aug-08	?
<b>Issue 4.</b> The small chromium plume at KW Reactor site has reached the river, as evidenced by near-shore aquifer tubes. There is currently no active remediation system in place for the small chromium plume at the KE-KW Reactor site. Therefore, construction of a new pump-and-treat system has been initiated in response to this condition.			

Issues and Actions		Action Due Date	Status August 2007
	<b>Action 4-1.</b> Construct a new pump-and-treat facility to address the chromium groundwater plume in the KW Reactor area.	Aug-08	Complete
<b>Issue 5.</b> Groundwater monitoring indicates that the expansion of the 100-K Area pump-and-treat extraction system has not yet achieved the remedial action objective.			
	<b>Action 5-1.</b> Expand the 100-K Area pump-and-treat system by 378.5 liters (100 gallons) per minute to enhance remediation of the chromium plume between the 116-K-2 and the N Reactor perimeter fence.	Aug-08	?
	<b>Action 5-2.</b> Add additional wells between the 166-K-2 trench and the N Reactor perimeter fence for groundwater extraction, and connect the additional wells to the pump-and-treat system.	Mar-07	06/07 wells installed, not connected
<b>100-N Area</b>			
<b>Issue 6.</b> The pump-and-treat system is ineffective and inefficient in reducing the flux of strontium-90 to the Columbia River, providing only a fraction (1:10) of the protection provided by natural radioactive decay. The degree of protection provided by hydraulic control from the pump-and-treat is unproven.			
	<b>Action 6-1.</b> Implement the treatability test plan for permeable reactive barrier utilizing apatite sequestration as described in the <i>Strontium-90 Treatability Test Plan for 100-NR-02 Groundwater Operable Unit</i> (DOE 2005c). Issue Treatability Test Report.	Sep-08	06/07 on track
<b>Issue 7.</b> Additional ecological data is needed to assess the interim actions prescribed within the record of decisions and to develop final cleanup standard. The extent of shoreline water quality impacts related to the diesel spill that occurred circa 1963 are not well known.			
	<b>Action 7-1.</b> Perform additional data collection to support risk assessment, provide to Ecology previously collected data, and coordinate with River Corridor sampling efforts to collect additional pore water data from new and existing aquifer tubes along the 100-NR-2 shoreline in order to assess water quality impacts.	Sep-08	06/07 In planning (FH)
<b>100-D Area</b>			
<b>Issue 8.</b> Groundwater monitoring data indicates there is an unidentified chromium vadose source in the 100-D Area near the demolished 190-DR clear wells.			
	<b>Action 8-1.</b> Complete a field investigation to investigate additional sources of chromium groundwater contamination within the 100-D Area. Additional geologic and geochemical investigations of the vadose zone in the 100-D Area.	Mar-09	06/07 in progress
<b>Issue 9.</b> There is less than adequate data to characterize potential chromium groundwater contamination between the 100-D and 100-H Area, in the area known as the "horn."			



Issues and Actions		Action Due Date	Status August 2007
	<b>Action 9-1.</b> Perform additional characterization of the aquifer for chromium contamination between the 100-D and 100-H Area, in the area known as the "horn," and evaluate the need to perform remedial action to meet the remedial action objectives of the 100-D record of decision for interim action. This issue will also be addressed in the final record of decision.	Sep-09	06/07 in progress (should be complete in 2008)
	<b>Action 9-2.</b> Incorporate the "horn" area into the 100-HR-3 interim ROD treatment zone if Action 9-1 indicates "horn" contains a groundwater chromium plume that needs immediate remediation.	Sep-09	?
<b>Issue 10.</b> Some of the groundwater wells near the 182-D reservoir show conductivity values similar to values expected for raw water indicating some leakage from the reservoir.			
	<b>Action 10-1.</b> Issue direction to the operating contractor to change operations to further minimize leakage from the 182-D reservoir.	Completed	Complete
<b>Issue 11.</b> A few wells within the in situ redox manipulation barrier have shown break through much sooner than expected.			
	<b>Action 11-1.</b> Initiate limited iron amendments to the in situ redox manipulation barrier to evaluate whether this enhances the performance.	Sep-07	06/07 in progress, program/date change
<b>100-H Area</b>			
<b>Issue 12.</b> Groundwater samples from one deep well extending below the aquitard exceed the drinking water standard (100 mg/L) for chromium. The extent of chromium contamination in this zone is not well understood.			
	<b>Action 12-1.</b> Perform additional characterization of the aquifer below the initial aquitard.	Sep-09	?
<b>300 Area</b>			
<b>Issue 19.</b> Predicted attenuation of uranium contaminant concentrations in the groundwater under the 300 Area has not occurred. DOE is currently performing additional characterization and treatability testing in the evaluation of more aggressive remedial alternatives.			
	<b>Action 19-1.</b> Complete focused feasibility study for 300-FF-5 Operable Unit to provide better characterization of the uranium contamination, develop a conceptual model, validate ecological consequences and evaluate treatment alternatives. Concurrently test injection of polyphosphate into the aquifer to immobilize the uranium and reduce the concentration of dissolved uranium. These activities support a CERCLA proposed plan.	Sep-08	In progress & on track

## **Attachment 5**

Activity ID	Activity Description	Orig Dur	Rem Dur	Early Start	Early Finish
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**100BC Area 2007 Scope - All in 1 Sch**

**SNF Shipment**

1120	SNF Training	3	3	05NOV07*	07NOV07
1130	SNF Mockup	3	3	05NOV07	07NOV07
1140	SNF Shipment #1				
1150	SNF Shipment #2				
1160	SNF Shipment #3				
1170	SNF Demob	4	4	18DEC07	24DEC07

**116-C-3**

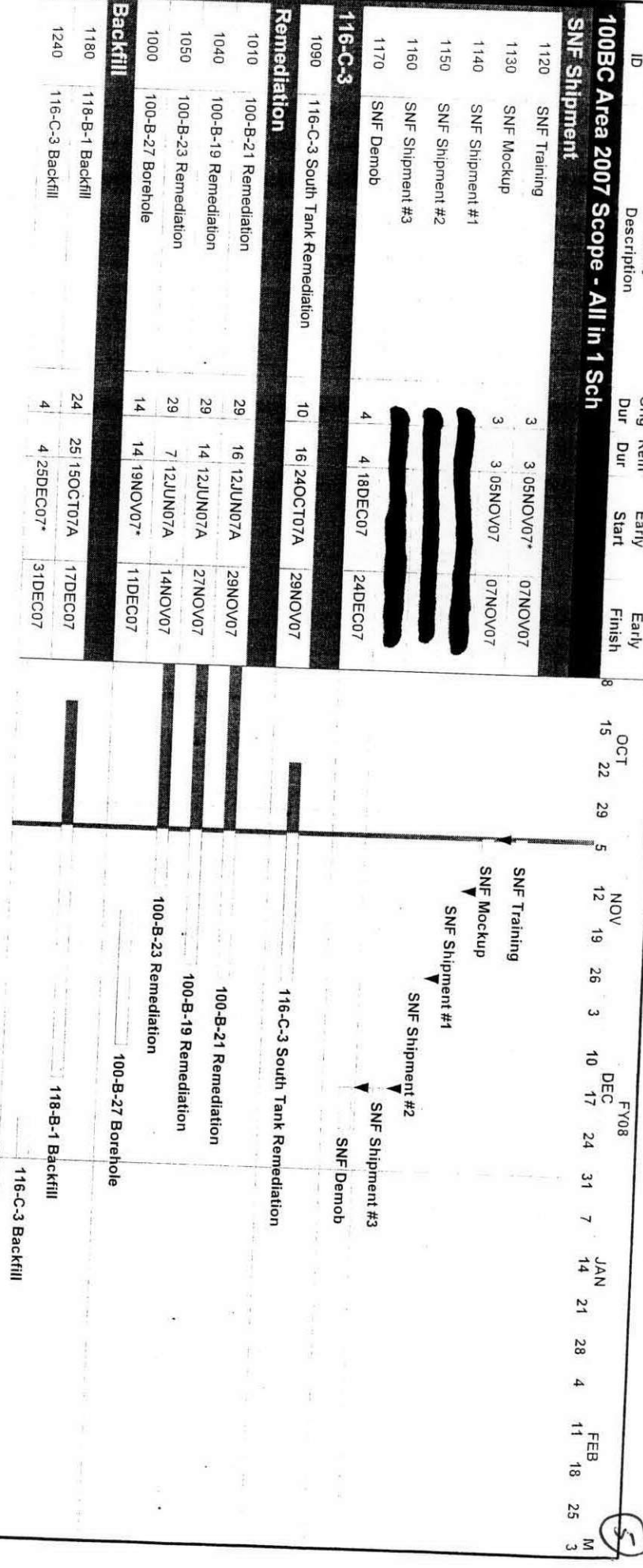
1090	116-C-3 South Tank Remediation	10	16	24OCT07A	29NOV07
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**Remediation**

1010	100-B-21 Remediation	29	16	12JUN07A	29NOV07
1040	100-B-19 Remediation	29	14	12JUN07A	27NOV07
1050	100-B-23 Remediation	29	7	12JUN07A	14NOV07
1000	100-B-27 Borehole	14	14	19NOV07*	11DEC07

**Backfill**

1180	118-B-1 Backfill	24	25	15OCT07A	17DEC07
1240	116-C-3 Backfill	4	4	25DEC07*	31DEC07



Start Date	01JAN07	Early Bar	LOOK
Finish Date	31MAR09	Progress Bar	
Data Date	05NOV07	Critical Activity	
Run Date	07NOV07 07:49		

WCH

Sheet 1 of 1

Date

Revision

Checked

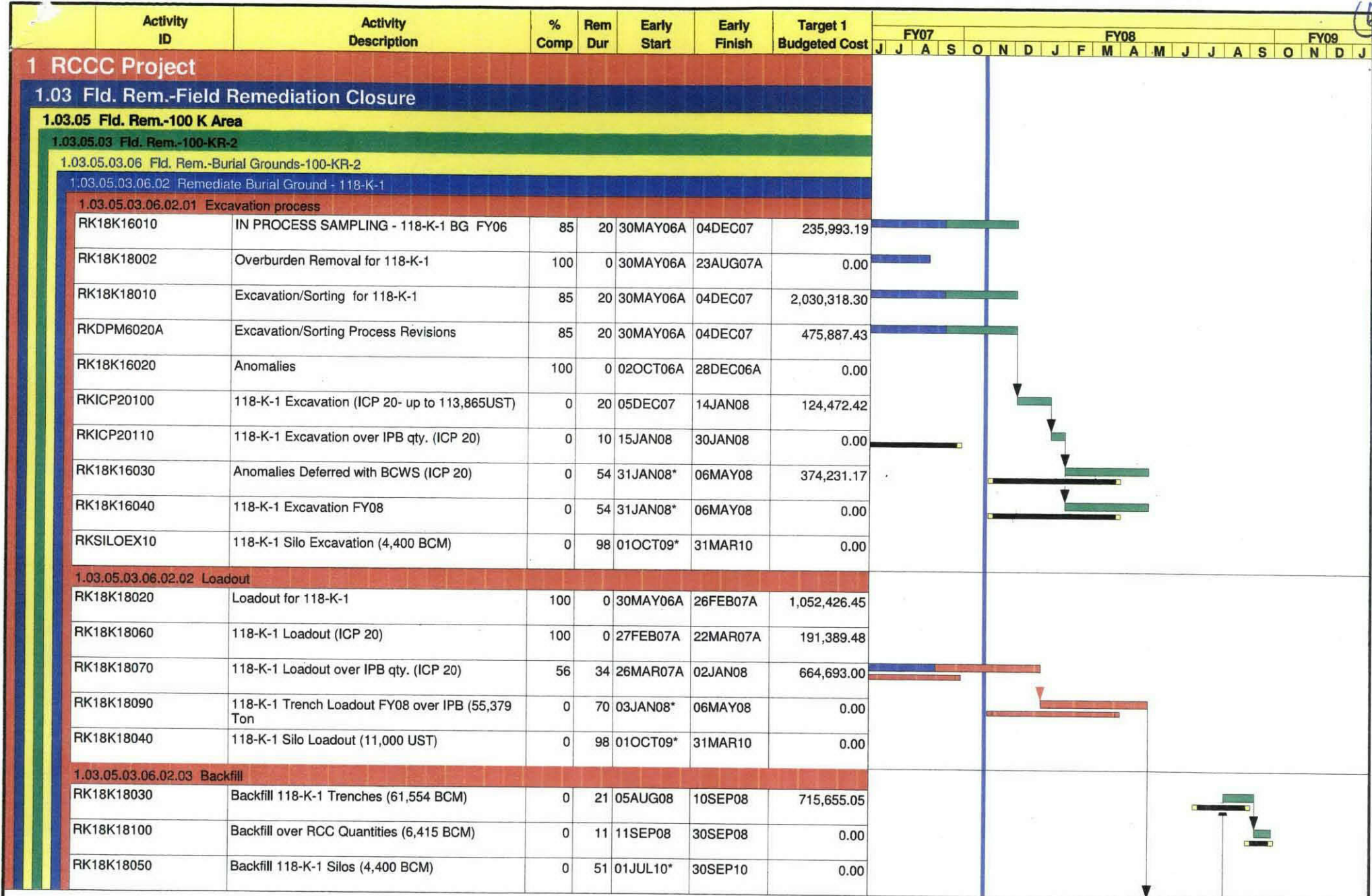
Approved

100-BG Schedule





## **Attachment 6**



Start Date 29AUG05  
 Finish Date 30APR13  
 Data Date 29OCT07  
 Run Date 31OCT07 14:24

Early Bar  
 Early Bar  
 Progress Bar  
 Critical Activity

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FKC7

WASHINGTON CLOSURE HANFORD

Sheet 1 of 2

100-K  
 Status'd thru 10/28/07



Activity ID	Activity Description	% Comp	Rem Dur	Early Start	Early Finish	Target 1 Budgeted Cost	FY07				FY08												FY09			
							J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
1.03.05.03.06.02.04 Closeout Sampling & Documentation																										
RK18K12020	Sample Design - 118-K-1	0	8	07MAY08	20MAY08	364.41																				
RK18K12060	RL/Reg Review Draft A Closure Doc	0	26	19MAY08	02JUL08	1,082.54																				
RK18K12030	Prepare Closure Document	0	41	21MAY08	04AUG08	1,614.73																				
RK18K12040	Variance Analysis - 118-K-1 Burial Ground	0	8	21MAY08	04JUN08	4,510.69																				
RK18K12070	Confirmation Analysis 118-K-1 Burial Ground	0	15	05JUN08	01JUL08	23,558.38																				
RK18K12590	Confirmation Sampling Calculations 118-K-1	0	1	01JUL08	01JUL08	170.31																				
RK18K12050	RL/Reg Sign Rev. 0 Closure Doc	0	5	15JUL08	22JUL08	189.24																				
RK18K12600	Silo Closeout 118-K-1	0	51	01APR10*	30JUN10	0.00																				
1.03.05.03.06.02.05 Revegetation																										
RKSAGE2030	Purchase Sage Brush for 118-K-1 in FY06 for FY07	0	15	02SEP08*	25SEP08	2,259.19																				
RKSAGE2035	Reveg of Burial Grounds (excl Silos) 12.3 acres	0	47	01OCT08*	29DEC08	20,332.73																				
RKSAGE2040	Reveg 118-K-1 Silos	0	47	04OCT10	29DEC10	0.00																				

## **Attachment 7**

(1) WCH is currently working west of the 183-D sedimentation basin.  
WCH

accumulated and tested 130 gallons of uncontaminated water from a 36" clean water line. Testing shows exceedance of secondary drinking water standards (Fe, Mn, Al), but no exceedance of primary standards. Ecology approves of re-use of that water for dust suppression.

(2) There is a 6" clean water line by the DR reactor. Ecology needs to see hexavalent chromium results, and whatever radiological results WCH has, to approve of re-use of the water for dust suppression in the in-process cells at the burial ground.

(3) WCH expects to encounter many clean water pipes in the northern zone ,

(along Palouse Avenue) of the D/DR reactor area. WCH will follow a standard protocol to open and check the lines for water. They will do field screening for volatile organics and radioactivity. WCH expects these to be clean water pipes based on (a) review of engineering drawings,

(b) the size and construction of the lines, and (c) presence of nearby clean water appliances like fire hydrants. Waste lines in that area are much deeper (8 - 9 meters below ground).

To have confidence in this approach, Ecology requires data for hexavalent chromium. Ecology recommends field testing for Hexavalent Chromium using HACH field test methods/pocket colorimeter on all pipe waters and XRF on any spills on soils. These results will determine the need for further sampling.

Additionally, When WCH can't positively identify clean water lines using the above described attributes, they will do 'full suite'

sampling of the water; including ICP metals, hexavalent chromium, anions, and radionuclides.

If they encounter a "nominal amount" of water (tens to a few hundred gallons), and confirm it to be clean, they may re-use the water for dust suppression in active remedial excavation areas.

WCH will not over-apply re-used water for dust suppression. In other words, they will not increase their application rate above their normal application rate.

## **Attachment 8**



AGREEMENT  
100-D AREA  
WSC-2 AND SOIL DISPOSAL  
~~11/8/07~~ ~~OCTOBER 11, 2007~~ Nov. 8, 2007  
UNIT MANAGER MEETING

The waste located in the 126-DR-1 waste site is a solid with a pH higher than 12.5 and was designated WSC2 under 173-303-090(6)(a)(iii). The waste meets the ERDF waste acceptance criteria (WAC) "as is." The container is being mixed with the soil to alleviate any potential concern amongst ERDF employees when the material arrives at the ERDF.

At the 100 D Area, the material will be sorted in a staging pile. A track-hoe will be used to sort and mix the material with surrounding soil prior to loading into an ERDF container. Dust suppression water will be applied as necessary to prevent any exposures (dust) at the remediation site and ERDF during disposal operations.

## **Attachment 9**

Mission Completion  
Sample Design and Cleanup Verification  
for the November 2007 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
100-IU-2/6	RL Review of 100-IU-2/6 Cultural Review	1/22/2008	2/26/2008
300 AREA	RL/Regulator Attend 300 Area ESD Briefing	10/29/2007	10/30/2007
	RL Review FHC Update for 618-1	11/19/2007	1/16/2008
	RL/Regulator Review Draft A 300 Area ESD	11/20/2007	12/17/2007
	RL Attend Design Review Briefing, 300-A Central Sites	12/5/2007	12/5/2007
	RL/Regulator Review Draft A WI for 300-275	12/13/2007	1/29/2008
	RL Issue 300 Area ESD for Public Review	1/8/2008	2/5/2008
	RL/Regulator Review Draft A WI for 300-32	1/21/2008	3/5/2008
	RL/Regulator Review Draft A WI for 300-2	1/24/2008	3/11/2008
	RL/Regulator Review Draft A WI for 303-M UOF	1/30/2008	3/17/2008
100-B/C	RL/Regulator Review Draft A Closure Doc for 100-B-18	12/6/2007	1/24/2008
	RL/Regulator Review of 118-B-1 Draft A Closeout Doc (SP)	12/17/2007	2/4/2008
	RL/Regulator Review Draft A WI for 100-B-19	1/9/2008	2/25/2008
	RL/Regulator Review Draft A WI for 1607-B5	1/30/2008	3/20/2008
100-D	RL/Regulator Review Draft A WI for 100-D-56 (North Pipeline)	10/30/2007	12/13/2007
	RL/Regulator Review Draft A Closure Doc for 100-D-33	11/8/2007	12/26/2007
	RL/Regulator Review Draft A Closure Doc for 100-D-35	11/8/2007	12/26/2007
	RL/Regulator Review Draft A Closure Doc for 100-D-41	11/8/2007	12/26/2007
	RL/Regulator Review Draft A Closure Doc for 100-D-40	11/8/2007	12/26/2007
	RL/Regulator Sign Rev. 0 WI for 100-D-56 (North Pipeline)	1/7/2008	1/17/2008
	RL/Regulator Sign Rev. 0 Closure Doc for 100-D-33	1/14/2008	1/17/2008
	RL/Regulator Sign Rev. 0 Closure Doc for 100-D-35	1/14/2008	1/17/2008
	RL/Regulator Sign Rev. 0 Closure Doc for 100-D-41	1/14/2008	1/17/2008
	RL/Regulator Sign Rev. 0 Closure Doc for 100-D-40	1/14/2008	1/17/2008
	RL/Regulator Review Draft A Closure Doc for 100-D-30	1/31/2008	3/5/2008
100-F	RL/Regulator Review Draft A Closure Doc for -118-F-1	10/22/2007 A	12/6/2007
	RL/Regulator Review Draft A Closure Doc for -118-F-2	10/24/2007 A	12/13/2007
	RL/Regulator Review Draft A Closure Doc for - 1607-F4	11/12/2007	12/26/2007
	RL/Regulator Review Draft A WI 120-F-1	11/15/2007	12/31/2007
	RL/Regulator Review Draft A Closure Doc for -118-F-8	12/10/2007	1/24/2008
	RL/Regulator Review Draft A Closure Doc for -1607-F1	12/11/2007	1/24/2008
	RL/Regulator Review Draft A Closure Doc for 100-F-26:10 Pipeline	12/20/2007	1/28/2008
	RL/Regulator Review Draft A Closure Doc for -118-F-5	12/26/2007	2/11/2007
	RL/Regulator Sign Rev 0 Closure Doc for -118-F-2	1/10/2008	1/23/2008
	RL/Regulator Approve/Signature Rev. 0 WI 120-F-1	1/14/2008	1/24/2008
	RL/Regulator Sign Rev 0 Closure Doc for -1607-F4	1/14/2008	1/24/2008
	RL/Regulator Review Draft A Closure Doc for -120-F-1	1/14/2008	1/24/2008
	RL/Regulator Sign Rev 0 Closure Doc for -118-F-1	1/17/2008	1/23/2008
	RL/Regulator Sign Rev 0 Closure Doc for -118-F-8	2/4/2008	2/14/2008
	RL/Regulator Sign Rev 0 Closure Doc for -1607-F1	2/11/2008	2/14/2008

Mission Completion  
Sample Design and Cleanup Verification  
for the November 2007 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
100-H	RL Review 100-H Bid	12/20/2007	1/21/2008
	Award 100-H Subcontract	1/22/2008	1/22/2008
100-N	RL/Regulator Review of Draft 100 Area ESD	8/27/2007 A	12/17/2007
	RL/Regulator Review Draft A WI for 100-N-55	11/27/2007	1/15/2008
	RL/Regulator Review Draft A WI for 100-N-28	12/12/2007	1/28/2008
	RL Issue Draft B 100 Area ESD for Public Review	12/18/2007	1/18/2008
	RL/Regulator Review Draft A WI for 100-N-53	12/18/2007	1/31/2008
	RL/Regulator Review Draft A WI for 100-N-65	12/31/2007	2/14/2007
	RL/Regulator Review Draft A WI for 100-N-66	1/16/2008	3/3/2008
	RL/Regulator Attend Design Review Briefing for 100-N Area	1/17/2008	1/17/2008
	RL/Regulator Review Draft A WI for 120-N-4	1/17/2008	3/4/2008
	RL Issue Rev. 0 of 100 Area ESD	1/21/2008	1/31/2008
	RL/Regulator Review Draft A WI for 100-N-68	1/21/2008	3/5/2008
	RL/Regulator Review Draft A WI for 100-N-79	1/21/2008	3/5/2008
	RL/Regulator Sign Rev. 0 WI for 100-N-55	1/24/2008	1/31/2008

## **Attachment 10**

**References that refer to a Kd of 45 for antimony:**

1. Ecology, 2005, Cleanup Levels and Risk Calculations (CLARC) Database,  
Washington State Department of Ecology, Olympia, Washington, available  
on the internet at  
<<https://fortress.wa.gov/ecy/clarc/Reporting/CLARCReporting.aspx>>.
2. EPA, 2002, Supplemental Guidance for Developing Soil Screening  
Levels  
for Superfund Sites, OSWER 9355.4-24, December 2002, U.S. Environmental  
Protection Agency, Washington, D.C., discussion-relevant portion  
available on the internet at  
<[www.epa.gov/superfund/health/conmedia/soil/pdfs/ssg\\_appa-c.pdf](http://www.epa.gov/superfund/health/conmedia/soil/pdfs/ssg_appa-c.pdf)>.
3. Oak Ridge National Laboratory (ORNL) Risk Assessment Information  
System database lists a Kd value of 45 mL/g cited from Baes, C. F., et  
al., "A Review and Analysis of Parameters for Assessing Transport of  
Environmentally Released Radionuclides through Agriculture," ORNL-5786,  
September 1984, Oak Ridge National Laboratory, Oak Ridge Tennessee,  
available on the internet at  
<<http://homer.ornl.gov/baes/documents/ornl5786.html>>.

## **Attachment 11**



### Tri-Party Agreement

10/9/07



## Remedial Action Approach and Management

container staging area to the excavation site and are prepared with a plastic liner. Excavated materials are placed in the lined containers and, depending on the material composition, are designated for transport to either ERDF, a clean material storage area, or a soil treatment storage area.

The containers are inspected for the presence of water prior to placing a liner or waste into the container. When water is found in a container with an estimated volume of 40 gallons or less (less than a depth of 0.5 inches in the bottom of the container), the water will be used as an aid for dust suppression in the adjacent radiological excavation, staging pile, or radiological debris piles in a manner that is consistent with regulator-approved work plans. When water is found in the container with an estimated volume greater than 40 gallons, lead regulatory agency approval will be sought to use the water as an aid for dust suppression in the adjacent radiological excavation, staging pile, or radiological debris pile, or direction from the agency to process the water through other means.

For all burial grounds and dump sites, materials will be excavated with standard construction equipment using one or more of the following techniques to sort and disposition waste:

- **Mechanical Grizzly or Power Screen.** Material will be excavated using heavy equipment and passed through a large sieve-type apparatus (grizzly) or power screen with 15-cm (6-in.) openings. Observation, sorting, and radiological surveys of the material may be performed at the dig face, on material retained by the grizzly or power screen, and on material passing through the grizzly or power screen.
- **0.3-m (1-ft)-Horizontal Lifts.** The exposed surface of each lift will be visually observed, radiologically screened, sorted (as necessary) to remove anomalous material and large debris, and then excavated using heavy equipment and stockpiled. Material will also be observed as it is being stockpiled for any additional sorting that is appropriate.
- **0.3-m (1-ft)-Diagonal (Sloping) Lifts.** The exposed surface of each lift will be visually observed as it is raked down the face of an excavation slope using heavy equipment. Material will be radiologically surveyed at the bottom of the slope, sorted as necessary, and stockpiled. Material will also be observed as it is being stockpiled for any additional sorting that is appropriate.
- **Bulk Excavate and Spread.** Material will be bulk excavated using heavy equipment, and then spread onto the ground in approximately 0.3-m (1-ft) layers. The shallow layer of material will then be radiologically screened and sorted.
- **0.2-m (0.5-ft)-Loader Lifts.** The surface of each lift will be visually observed, radiologically screened, sorted as necessary, and then excavated using the front-end loader. This technique is best suited for areas with little visible debris.

In excavation areas where there are large quantities of observed lead containing materials (e.g., lead bricks, lead slag) intermixed with the soil, a variation of these excavation/sorting

## **Attachment 12**

100 Area D4/ISS Status  
November 8, 2007  
100/300 Area Combined Unit Manager Meeting

**Ongoing Demolition Activities**

- 163-N/183-N –Below grade demolition and load-out ongoing.
- 1312-N LERF – Backfill operations ongoing.
- 109-N – Asbestos abatement in Zone 2, 8W (basement) and roof ongoing.
- 184-N/NA - Hazardous material removal ongoing.
- 117-N – Hazardous material removal ongoing.

**60-Day Project Look Ahead**

- 1312-N LERF inlet piping shipment to ERDF.
- 184-N demolition preparation.
- 107-N characterization.
- Receive bids for 105-N/109-N demolition and Safe Storage Enclosure construction
- Award contract for explosive demolition of 184-N and 116-N.
- 1802-N below grade demolition and load-out of above and below grade debris.

## **Attachment 13**

300 Area D4 Status  
November 8, 2007  
100/300 Area Combined Unit Manager Meeting

**Ongoing Hazardous Material Removal**

- 321
- 324
- 327
- 337B
- 384

**Ready for Demolition:**

- 3718E
- 3718S
- 337

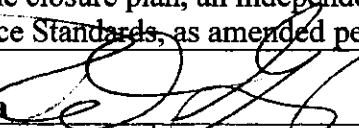

**Demolition Activities:**

- 3720 – load out completed (October)
- 306W – demolition is completed, load out is ongoing
- 328/328A/328BA – demolition is ongoing

**60-Day Project Look Ahead**

- Complete load out of 306W
- Complete load out of the 328 complex
- Begin demolition of 384
- Begin hazardous material removal at 308, 337BA, 3718 (including A, B, C, and M)

## **Attachment 14**

<b>Control Number:</b>	<b>NPL Agreement/Change Control Form</b>  ___ Change <u>  X  </u> Agreement    ___ Information  <b>Operable Unit(s):</b>	<b>Date Submitted:</b> November, 2007  <b>Date Approved:</b>
<b>Document Number/Title:</b> 324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Area Closure Plan, Revision 3 DOE/RL-96-73 (Closure Plan)		<b>Date Document Last Issued:</b> September 3, 2005
<b>Originator:</b> Megan Proctor		<b>Phone:</b> 373-4596
<b>Summary Discussion:</b> The 324 Closure Plan contains information that is current up to March, 2005. Since that time, Washington Closure Hanford, LLC. (WCH) has become the operator of the 324 Building; a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Action Memorandum has been issued (Action Memorandum #2 for the 300 Area) to perform facility deactivation, decontamination, decommissioning, and demolition of the 324 Building; and a removal action work plan has been issued, which addresses both the requirements of the Closure Plan and the CERCLA action. The purpose of this agreement is to document the current building operational status, identify those portions of the Closure Plan that are applicable, and identify the portion of the Closure Plan that will be used for certification of closure by a P.E.		
<b>Justification and Impact of Change:</b> Changes to the Closure Plan are documented below: <ol style="list-style-type: none"><li>1. References to Fluor Hanford regarding building ownership shall be read to refer to WCH.</li><li>2. The enforceable section of the Closure Plan is 6.0, Closure Strategy and Performance Standards with the following revisions:<ol style="list-style-type: none"><li>a. All dangerous and/or mixed waste materials generated during closure activities will be managed in accordance with Action Memorandum #2 for the 300 Area Facilities and the applicable removal action work plan.</li><li>b. The closure activities listed in Table 6-1 will be accomplished through a combination of direct removal prior to demolition; or will be demolished with the facility, as appropriate. All waste will be managed in accordance with the applicable removal action work plan.</li></ol></li><li>3. Consistent with Section 7.9 of the closure plan, an independent PE will certify closure to Section 6.0, Closure Strategy and Performance Standards, as amended per this agreement.</li></ol>		
<b>DOE Project Manager:</b> Rudy Guercla 		<b>Date:</b> 11-7-07
<b>Ecology Project Manager:</b> Rick Bond 		<b>Date:</b> 11-2-07
<b>Per Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement Section 9.3</b>		

## **Attachment 15**





**Change Notice for Modifying Approved Documents/ Workplans  
In Accordance with the Tri-Party Agreement Action Plan,  
Section 9.0, Documentation and Records**

<b>Change Number</b>	<b>Document Submitted Under Tri-Party Agreement Milestone</b>	<b>Date:</b>	
TPA-CN-186		September 12, 2007	
<b>Document Number and Title:</b> DOE/RL-2002-70, Revision 2, Removal Action Work Plan for 100-N Area Ancillary Facilities		<b>Date Document Last Issued:</b> March 16, 2006	
<b>Originator:</b> Dan G. Saueressig		<b>Phone:</b> 373-5473	
<b>Description of Change:</b>			
<p><u>Rudy Guercia</u> and <u>John Price</u> agree that the proposed change modifies an approved workplan/document will be processed in  <b>RL</b>                      <b>Lead Regulatory Agency</b></p> <p>accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>.</p> <p>The following paragraph is added to Section 2.7 (Demobilization, Page 2-7) of DOE/RL-2002-70, Revision 2:</p> <p>“Disposal of used, outdated or broken equipment that is either radiologically contaminated or cannot be free released due to potential contamination from biological vectors (mud daubers, mice or bird droppings) may be disposed at ERDF in accordance with the 100-N RAWP (DOE/RL-2002-70, Rev. 2). Every effort is made to free release equipment, however many items needing to be dispositioned have spaces that are inaccessible to survey and therefore cannot be released from a radiological perspective. These same inaccessible areas are also very conducive to nests for biological vectors that have been known to spread contamination. Prior to disposal, the equipment will be deactivated in accordance with Section 2.1.4 of the RAWP, as necessary.”</p> <p>Note: Include affected page number</p>			
<b>Justification and Impacts of Change:</b>			
This change provides clarification to the 100-N Ancillary Facilities RAWP (DOE/RL-2002-70, Revision 2) by addressing disposition of equipment and materials.			
<b>Approvals:</b>			
 RL Unit Manager*	9/12/07 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	
 Lead Regulatory Unit Manager*	11/8/2007 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	

## **Attachment 16**

**Environmental Protection Mission Completion Project**  
November 8, 2007

**Orphan Sites Evaluations**

- Field walkdown for 100-K Area ~ 50% complete.
- Historical review task for 100-N Area has been initiated.
- IU-2/IU-6 briefings with EPA being scheduled in November and December.
- Updating D-Area Report and item lists based on Ecology comments and agreements.

**100/300 Area RCBRA Component**

- 100/300 Area RA scope combined with Inter-Areas RA scope, and expanded groundwater evaluation added. Inter-areas sampling concluding next week.
- Responding to comments, with a 2-day resolution public meeting on 1/10 and 1/11
- Path forward (attached)

**Columbia River Component**

- WCH received direction to proceed on the Columbia River Component DQO, SAP, work plan to support supplemental sampling for a screening level risk assessment. RL meeting on 11/15; Regulator meeting 11/28; Interviews will be scheduled in the near future.

**RCC Mission Completion Project**  
**Risk Assessment - Document and Involvement Look Ahead**  
**November-07**

<b>Task</b>	<b>Document</b>	<b>Activity</b>	<b>Status</b>	<b>Target Start Date</b>	<b>Regulator Review</b>	<b>Target End Date</b>
<b>RCBRA</b>	Integrated River Corridor Baseline Risk Assessment	Resolving comments, revising scope; Draft B scheduled	In Progress	1-Apr-06	June 2008; Public and Regulator review September 2008	Late Dec, 2008

## **Comment Response Plan/Schedule for Draft A RCBRA**

EPA/Ecology review public and EPA comment responses – 11/6/07 to 11/15/07

- HAB (individual and committee) – 26 comments
- Trustees (Ecology) – 26 comments
- Columbia Riverkeepers – 4 comments
- Oregon DOE – 11 comments
- Yakama Nations – 21 comments
- EPA – 60 comments
- Include copy of Ecology comments (518) without formal responses.
- DOE and Fluor Hanford comments (29) will not be included in final public deliverable.

Tri Parties Workshop on public comment responses – 11/28/07

Transmit public comment responses to HAB, Trustees, etc. – 12/6/07

WCH/RL prepare responses to Ecology comments – 10/15/07 to 12/5/07

- Informal responses to Ecology comments
- White paper on COC refinement
- White paper on EPC calculations
- X-walk comparing EPA risk guidance to WAC 173-340
- Demonstration of WAC risk scenarios

Transmit responses to Ecology comments for Tri Parties review – 12/6/07

Tri Parties Workshop on white papers and crosswalk – 12/10/07

Tri Parties Workshop on Ecology comment responses – 12/17/07 (& 12/18/07 if needed)

Tri Parties preparation session for public comment response meeting – 1/14/08

Draft A public comment response discussion meeting – 1/10/08 and 1/11/08

Prepare RCBRA Draft B (two volumes) – 12/26/07 to 4/14/08

Tri Parties Review/Comment of RCBRA Draft B – 4/15/08 to 8/19/08

Public Review of RCBRA Draft B – 8/20/08 to 10/29/08

Prepare RCBRA Rev 0 – 10/30/08 to 12/11/08